Attorney Docket No. KSC-12139-1

Title: THERMODYNAMIC PRESSURE/TEMPERATURE TRANSDUCER HEALTH CHECK

## AMENDMENTS TO THE CLAIMS

(Original) A pressure transducer test apparatus comprising: 1.

a fitting having an input to receive a pressure input and an output to receive a pressure transducer; and

tor charges a valve attached to the fitting near the input, such that the fitting has a variable pressure chamber with first and second selectable internal volumes between the valve and the output.

- (Original) The pressure transducer test apparatus of claim 1 further comprising a 2. piston provided in the fitting, such that movement of the piston selects the first and second volumes.
- (Original) The pressure transducer test apparatus of claim 2 wherein the piston is 3. moved in response to an electro magnet.
- (Original) The pressure transducer test apparatus of claim 1 wherein the valve can 4. be opened or closed remotely.
- (Previously amended) A pressure transducer test apparatus comprising: 5.

a fitting having an input to receive a pressure input and an output coupleable to a pressure transducer;

a valve attached to the fitting near the input, the fitting further having first and second selectable internal volumes between the valve and the output; and

a piston provided in the fitting, wherein the piston is remotely movable between first and second positions for selecting the first internal volume at the first position and the second internal volume at the second position.

Title: THERMODYNAMIC PRESSURE/TEMPERATURE TRANSDUCER HEALTH CHECK

6. (Previously amended) The pressure transducer test apparatus of claim 5 wherein the piston is movable in response to an electro magnet.

- 7. (Original) The pressure transducer test apparatus of claim 5 wherein the valve can be opened or closed remotely.
- 8. (Original) The pressure transducer test apparatus of claim 5 wherein the fitting comprises:

a primary tube having first and second opposite ends; and

a secondary tube attached to the primary tube between the first and second ends, wherein the secondary tube contains the piston.

- 9. (Original) The pressure transducer test apparatus of claim 8 wherein the secondary tube is attached generally perpendicular the primary tube.
- 10. (Original) The pressure transducer test apparatus of claim 8 wherein the primary and secondary tubes have a non-circular cross-sections.
- 11. (Previously amended) A method of in situ testing a pressure transducer comprising:

measuring a first internal pressure in a fitting at a first internal volume of the fitting using the pressure transducer;

changing the internal volume of the fitting to a second internal volume to change the internal pressure to a second internal pressure;

measuring the second internal pressure in the fitting using the pressure transducer; and

B, '9

comparing the measured first and second internal pressures to historical pressure readings.

- 12. (Original) The method of claim 11 wherein changing the volume of the fitting comprises moving a piston located within the fitting.
- 13. (Currently amended) <u>A The method of claim-11 further comprises in situ testing a pressure transducer comprising:</u>

measuring a first internal pressure in a fitting at a first internal volume of the fitting using the pressure transducer;

changing the internal volume of the fitting to a second internal volume to change the internal pressure to a second internal pressure;

measuring the second internal pressure in the fitting using the pressure transducer;

comparing the measured first and second internal pressures to historical pressure
readings; and

sealing an input of the fitting prior to measuring the first internal pressure.

14. (Currently amended) A The method of claim 11 further in situ testing a pressure transducer comprising:

measuring a first internal pressure in a fitting at a first internal volume of the fitting using the pressure transducer;

changing the internal volume of the fitting to a second internal volume to change the internal pressure to a second internal pressure;

measuring the second internal pressure in the fitting using the pressure transducer;

comparing the measured first and second internal pressures to historical pressure
readings; and



calculating a sensitivity, repeatability and hysteresis of the transducer using the measured internal pressures.

Curry B1'9

- 15. (Original) The method of claim 14 further comprising calculating linearity of the transducer using the measured internal pressures and a measured temperature.
- 16. (Withdrawn)
- 17. (Withdrawn)
- 18. (Withdrawn)
- 19. (Previously amended) A method of in situ testing a pressure transducer comprising:

measuring a series of first internal pressures in a fitting at a first volume of the fitting using the pressure transducer;

measuring a series of second internal pressures in the fitting at a second volume of the fitting using the pressure transducer; and

analyzing and comparing the measured series of first and second internal pressures to historical data.

20. (Currently amended) A The method of claim 19 in situ testing a pressure transducer comprising:

measuring a series of first internal pressures in a fitting at a first volume of the fitting using the pressure transducer;

analyzing and comparing the measured series of first and second internal pressures to historical data;

wherein analyzing comprises determining sensitivity, linearity, hysteresis, or repeatability of the transducer.

- (Previously amended) The method of claim 19 wherein the first and second 21. volumes of the fitting are determined by a position of an internal piston of the fitting.
- 22. (Withdrawn)
- 23. (Withdrawn)
- (Withdrawn) 24.
- 25. (Withdrawn)
- 26. (Withdrawn)
- 27. (Withdrawn)

